

WHAT IS CLAIMED IS:

1 1. A Web content fetch and delivery system comprising:
2 a server configured for communicating with requestors over at least one
3 communication network;
4 wherein if a first request from a first requestor for a plurality of objects is
5 received, the server is programmed for scheduling delivery of the plurality of objects in
6 ascending order of object size.

1 2. A Web content fetch and delivery system as recited in claim 1, wherein if a
2 second request from a second requestor for one or more objects is received prior to the delivery
3 of one or more objects from the first request, the server is programmed for scheduling the
4 delivery of the objects in the second request and undelivered objects in the first request in
5 ascending order of object size.

1 3. A Web content fetch and delivery system as recited in claim 2, wherein for each
2 object whose delivery is suspended while smaller objects are being delivered, the server is
3 programmed for:

4 assigning a priority value to the suspended object computed as a waiting time of
5 the object divided by the size of the object; and
6 scheduling the delivery of suspended objects in descending order of priority
7 value.

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1 4. A Web content fetch and delivery system as recited in claim 1, wherein if a
2 second request from a second requestor for one or more objects is received during the delivery
3 of an object from the first request, such that an undelivered remainder of the object from the
4 first request exists when the second request is received, the server schedules the delivery of the
5 objects in the second request and the undelivered remainder of the object in the first request in
6 ascending order of object size.

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1 7. A Web content fetch and delivery system as recited in claim 6, wherein for each
2 partial or whole object whose loading is suspended while smaller objects are being loaded, the
3 user is programmed for:

4 assigning a priority value to each suspended object computed as a waiting time
5 of the object divided by the size of the object; and

6 scheduling the loading of suspended objects in descending order of priority
7 value.

1 8. A Web content fetch and delivery system comprising:

2 a first requestor for communicating a first request for a plurality of objects over
3 at least one communication network; and

4 a server configured for delivering objects and communicating with the first
5 requestor over at least one communication network;

6 wherein the first request is a get-list-of-targets command communicated to the
7 server for requesting a plurality of objects from the server in a single connection; and

8 wherein the server is programmed for receiving the get-list-of-targets command
9 from the first requestor and delivering the plurality of objects to the first requestor in a single
10 connection.

1 9. A Web content fetch and delivery system as recited in claim 8, wherein the first
2 requestor is programmed for receiving information containing the size of the plurality of objects
3 being delivered in the single connection, and determining a start and end of each of the plurality
4 of objects as the objects are received, based on their known size.

1 10. A Web content fetch and delivery system as recited in claim 8, wherein the
2 server is further programmed for scheduling delivery of the plurality of objects in ascending
3 order of object size.

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1 11. A Web content fetch and delivery system as recited in claim 8, further including
2 a second requestor for communicating a second request for one or more objects from the server
3 over the at least one communication network;

4 wherein if the second request is received by the server prior to or during the
5 delivery of one or more objects from the first request, such that whole or partial undelivered
6 objects from the first request exist when the second request is received, the server is further
7 programmed for scheduling the delivery of objects from the second request and any whole or
8 partial undelivered objects from the first request in ascending order of object size.

12. A Web content fetch and delivery system comprising:
a requestor configured for communicating with content provider servers over at
least one communication network;

wherein the requestor is programmed for automatically looking up IP addresses
of linked URLs in a Web page in response to a request for that Web page but prior to any
request for those linked URLs.

13. A Web content fetch and delivery system as recited in claim 12, wherein the
requestor is further programmed for automatically establishing connections to the linked URLs
in the Web page prior to any request for those linked URLs.

1 14. A Web content fetch and delivery system comprising:
2 a requestor configured for communicating requests for content to content
3 provider servers over at least one communication network; and
4 a content provider server for storing content and communicating with the
5 requestor over the at least one communication network;
6 wherein if the requestor communicates a request for content to the content
7 provider server, and a channel has been established between the requestor and the content
8 provider server, and any requested content has been delivered from the content provider server
9 to the requestor, the requestor is programmed for keeping the channel open until a fixed
10 number of link traversals have occurred.

11 15. A Web content fetch and delivery system comprising:
12 a requestor configured for fetching content from content provider servers over at
13 least one communication network;
14 wherein the requestor is programmed for maintaining a log of all content fetched
15 including a time of the fetch, and storing associations between content fetched within a fixed
16 time period, such that when subsequent requests for particular content are received by the
17 requestor, the requestor will pre-fetch all content associated with that particular requested
18 content.

1 16. A method for Web content fetch and delivery, wherein if a first request for
2 delivery of a plurality of objects is received, the method comprises the step of scheduling
3 delivery of the plurality of objects in ascending order of object size.

17. A method for Web content fetch and delivery as recited in claim 16, wherein if a second request for delivery of one or more objects from the server is received prior to the delivery of one or more objects from the first request, the method further includes the step of scheduling the delivery of the objects in the second request and undelivered objects in the first request in ascending order of object size.

18. A method for Web content fetch and delivery as recited in claim 17, wherein for each object whose delivery is suspended while smaller objects are being delivered, the method further includes the steps of:

assigning a priority value to the suspended object computed as a waiting time of the object divided by the size of the object; and

scheduling the delivery of suspended objects in descending order of priority value.

19. A method for Web content fetch and delivery as recited in claim 16, wherein if a second request from a second requestor for delivery of one or more objects from the server is received during the delivery of an object from the first request, such that an undelivered remainder of the object from the first request exists when the second request is received, the method further includes the step of scheduling the delivery of the objects in the second request and the undelivered remainder of the object in the first request in ascending order of object size.

20. A method for Web content fetch and delivery as recited in claim 19, wherein for each partial or whole object whose delivery is suspended while smaller objects are being delivered, the method further includes the steps of:

assigning a priority value to each suspended partial or whole object computed as a waiting time of the object divided by the size of the object; and scheduling the delivery of suspended objects in descending order of priority value.

21. A method for Web content fetch and delivery, wherein if a user receives a plurality of objects for delivery, the method comprises the step of scheduling the delivery of any whole or partial undelivered objects in ascending order of object size.

22. A method for Web content fetch and delivery as recited in claim 21, wherein for each partial or whole object whose loading is suspended while smaller objects are being loaded, the method further includes the steps of:

assigning a priority value to each suspended object computed as a waiting time of the object divided by the size of the object; and scheduling the loading of suspended objects in descending order of priority value.

23. A method for Web content fetch and delivery comprising the steps of: communicating a first request comprising a get-list-of-targets command for requesting a plurality of objects in a single connection; and delivering the plurality of objects in a single connection.

1 24. A method for Web content fetch and delivery as recited in claim 23, further
2 including the steps of:
3 determining a size of the plurality of objects being delivered in the single
4 connection; and
5 determining a start and end of each of the plurality of objects as the objects are
6 received, based on their known size.

1 25. A method for Web content fetch and delivery as recited in claim 23, further
2 including the step of scheduling delivery of the plurality of objects in ascending order of object
3 size.

4 26. A method for Web content fetch and delivery as recited in claim 23, wherein if a
5 second request for one or more objects is received prior to or during the delivery of one or
6 more objects from the first request, such that whole or partial undelivered objects from the first
request exist when the second request is received, the method further includes the step of
scheduling the delivery of objects from the second request and any whole or partial undelivered
objects from the first request in ascending order of object size.

1 27. A method for Web content fetch and delivery, comprising the step of
2 automatically looking up IP addresses of linked URLs in a Web page in response to a request
3 for that Web page but prior to any request for those linked URLs.

Sub B1 1 28. A method for Web content fetch and delivery as recited in claim 27, further
2 including the step of automatically establishing connections to the linked URLs in the Web page
3 prior to any request for those linked URLs.

29. A method for Web content fetch and delivery, wherein if a channel has been established between a requestor and a content provider server, and any requested content has been delivered from the content provider server to the requestor, the method comprises the step of keeping the channel open until a fixed number of link traversals have occurred.

30. A method for Web content fetch and delivery comprising the steps of:
maintaining a log of all content fetched including a time of the fetch and a
requestor of the fetched content;
storing associations between content fetched within a fixed time period by the
same requestor; and
pre-fetching all content associated with particular content when requests for that
particular content are subsequently received.